

ANSz50

compact z-scanner

Technology			
travel mechanism	piezo driven lever arm mechanism		
Size and Dimensions			
footprint; height	15 x 15; 6 mm		
Fine Positioning Mode			
scan range	4.3 µm @ 300 K, 2 µm @ 4 K		
scan resolution	sub-nm resolution		
Coarse Positioning Mode			
travel (step mode)	no coarse positioning capability		
Materials (non-magnetic)			
positioner body	Titanium (other materials on request)		
actuator	PZT ceramics		
connecting wires	2 twisted pairs, Cu wires		
weight	4.5 g		
Load			
maximum vertical load	50 g		
maximum torque on the axis	10 Ncm		
maximum bandwidth	100 Hz		
Mounting			
frontside mounting	two through holes for M1.6		
backside mounting	---		
load mounting	four threads M1.6		
Article Numbers			
/RT Version	1002601	/LT Version	1002604
/HV Version	1002602	/LT/HV Version	1001588
/UHV Version	1002603	/LT/UHV Version	1002605
Compatibility with Electronics			
ANC300 piezo positioning controller	all versions		
ANC350 piezo controller	all versions		

Working Conditions		
mounting orientation	scanner moving vertically	
magnetic field range	0 .. 31 T	
temperature range (/RT, /HV, /UHV)	0 .. 100 °C	
temperature range (/LT, /LT/HV, /LT/UHV)	10 mK .. 373 K, Test @ 4.2 K	
max. bake out temperature (/UHV, /LT/UHV)	150 °C	
minimum pressure (/RT, /LT)	1E-4 mbar	
minimum pressure (/HV, /LT/HV)	1E-8 mbar	
minimum pressure (/UHV, /LT/UHV)	5E-11 mbar	
Connectors and Feedthroughs		
	/RT, /LT Versions	all /HV, /UHV Versions
connector type	2-pole pin plug, ø 0.5 mm, d = 2 mm,	2-pole pin plug (PEEK), ø 0.5 mm, d = 2 mm,
connector type	30 cm cable with connector	30 cm cable with connector
electrical feedthrough solution	COC230/LT	COC230/HV, COC230/UHV
Temperature Dependent Data		
	@ 300K	@ 4K (only /LT versions)
input voltage range	0 .. +60 V	0 .. +150 V
typical actuator capacitance	2500 nF	340 nF
typical step size (min .. max)	---	---
fine positioning range	4,3 µm @ 60 V	2 µm @ 150 V
Accuracy of Movement		
repeatability	typically 0.1 %	
resonance frequency (typically higher than)	---	
creep	typically 0.5 - 0.8 % per decade of time	
linearity	typically 5 - 10 %	

